

REMARKS

Revocation of Power of Attorney

Applicant is enclosing herewith a Revocation of Power of Attorney and Appointment of New Attorney naming BRUCE H. TROXELL as attorney of record in this patent application. It is requested that all further correspondence regarding this matter be forwarded to TROXELL LAW OFFICE PLLC at the address listed on the enclosed form. A CHANGE OF ADDRESS FORM is also being submitted herewith.

Claim Rejections

Claim 3 is rejected under 35 U.S.C. § 102(b) as being anticipated by Oota (U.S. 6,018,167). Claims 1, 2, 7-9, 13-15, and 19-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oota in view of Wu et al. (U.S. 6,114,090). Claims 4-6, 10-12, 16-18, and 22-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oota in view of Wu et al. and further in view of Honda et al. (U.S. 4,317,862).

Drawings

It is noted that the Examiner has accepted the drawings as originally filed with this application.

New Claims

By this Amendment, Applicant has canceled claims 1-24 and has added new claims 25-38 to this application. It is believed that the new claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

The new claims are directed toward a method for encapsulating a light emitting diode, which comprises the steps of: a) placing a crystalline grains light-emitting diode chip into a pre-punched first lead frame; b) electrically connecting the first lead frame and the crystalline grains light-emitting diode chip to a second lead

frame; c) encapsulating the crystalline grains light-emitting diode chip in a photosensitive polymer, the encapsulating step including placing the first lead frame, the crystalline grains light-emitting diode chip, and the second lead frame in a mold and injecting the photosensitive polymer into the mold; d) curing the photosensitive polymer at room temperature to form an encapsulated light emitting diode; and e) cutting, testing and packaging the encapsulated light emitting diode.

Other embodiments of the present invention include: the photosensitive polymer utilized in the encapsulating step c) includes an Oligomer and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes a reactive Monomer and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes a Oligomer, a reactive Monomer, and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes at least one selected from the group consisting of between 0.1% and 20% of a Silane coupling agent, 0.01% and 15% of an ultraviolet absorber agent, and between 0.01% and 20% of a Hindered Amine Light Stabilizer; the curing step d) the photosensitive polymer is exposed to the visible light for a period of time between 5 seconds and 10 seconds; the curing step d) the photosensitive polymer is exposed to the ultraviolet light for a period of time between 5 seconds and 10 seconds; and the curing step d) the photosensitive polymer is exposed to the electron beam for a period of time between 5 seconds and 10 seconds.

The primary reference to Oota discloses a light-emitting device including an LED chip (41), and film electrodes (43, 44), and wiring patterns (46, 47) formed on a substrate (45). A curable-type UV resin (62) is formed around the LED chip.

Oota does not teach placing a crystalline grains light-emitting diode chip into a pre-punched first lead frame; the encapsulating step including placing the first lead frame, the crystalline grains light-emitting diode chip, and the second lead frame in a mold and injecting the photosensitive polymer into the mold; the photosensitive polymer utilized in the encapsulating step c) includes an Oligomer and a Photoinitiator; wherein the photosensitive polymer utilized in the encapsulating step c) includes a reactive Monomer and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes a Oligomer, a reactive Monomer, and a Photoinitiator; the curing step d) the photosensitive polymer is exposed to the

visible light for a period of time between 5 seconds and 10 seconds; the curing step d) the photosensitive polymer is exposed to the ultraviolet light for a period of time between 5 seconds and 10 seconds; nor does Oota teach the photosensitive polymer is exposed to the electron beam for a period of time between 5 seconds and 10 seconds.

It is axiomatic in U.S. patent law that, in order for a reference to anticipate a claimed structure, it must clearly disclose each and every feature of the claimed structure. Applicant submits that it is abundantly clear, as discussed above, that Oota do not disclose each and every feature of Applicant's new claims and, therefore, could not possibly anticipate these claims under 35 U.S.C. § 102. Absent a specific showing of these features, Oota cannot be said to anticipate any of Applicant's new claims under 35 U.S.C. § 102.

The secondary reference to Wu et al. discloses a thermally-stable photopolymer composition and light transmissive device and teaches curing a photopolymer using a physical light, ultraviolet light or an electron beam.

Wu et al. do not teach placing a crystalline grains light-emitting diode chip into a pre-punched first lead frame; electrically connecting the first lead frame and the crystalline grains light-emitting diode chip to a second lead frame; encapsulating the crystalline grains light-emitting diode chip in a photosensitive polymer; the encapsulating step including placing the first lead frame, the crystalline grains light-emitting diode chip, and the second lead frame in a mold and injecting the photosensitive polymer into the mold; curing the photosensitive polymer at room temperature to form an encapsulated light emitting diode; cutting, testing and packaging the encapsulated light emitting diode; the photosensitive polymer utilized in the encapsulating step c) includes an Oligomer and a Photoinitiator; wherein the photosensitive polymer utilized in the encapsulating step c) includes a reactive Monomer and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes a Oligomer, a reactive Monomer, and a Photoinitiator; the curing step d) the photosensitive polymer is exposed to the visible light for a period of time between 5 seconds and 10 seconds; the curing step d) the photosensitive polymer is exposed to the ultraviolet light for a period of time between 5 seconds and 10 seconds; nor do Wu et al. teach the photosensitive polymer is

exposed to the electron beam for a period of time between 5 seconds and 10 seconds.

The secondary reference to Honda et al. teaches a sandwich glass and is cited by the Examiner for teaching a Silane coupling agent of 10% or less utilized in a resin.

Honda et al. do not teach placing a crystalline grains light-emitting diode chip into a pre-punched first lead frame; electrically connecting the first lead frame and the crystalline grains light-emitting diode chip to a second lead frame; encapsulating the crystalline grains light-emitting diode chip in a photosensitive polymer; the encapsulating step including placing the first lead frame, the crystalline grains light-emitting diode chip, and the second lead frame in a mold and injecting the photosensitive polymer into the mold; curing the photosensitive polymer at room temperature to form an encapsulated light emitting diode; cutting, testing and packaging the encapsulated light emitting diode; the photosensitive polymer utilized in the encapsulating step c) includes an Oligomer and a Photoinitiator; wherein the photosensitive polymer utilized in the encapsulating step c) includes a reactive Monomer and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes a Oligomer, a reactive Monomer, and a Photoinitiator; the curing step d) the photosensitive polymer is exposed to the visible light for a period of time between 5 seconds and 10 seconds; the curing step d) the photosensitive polymer is exposed to the ultraviolet light for a period of time between 5 seconds and 10 seconds; nor do Honda et al. teach the photosensitive polymer is exposed to the electron beam for a period of time between 5 seconds and 10 seconds.

Even if the teachings of Oota, Wu et al., and Honda et al. were combined, as suggested by the Examiner, the resultant combination does not suggest: placing a crystalline grains light-emitting diode chip into a pre-punched first lead frame; the encapsulating step including placing the first lead frame, the crystalline grains light-emitting diode chip, and the second lead frame in a mold and injecting the photosensitive polymer into the mold; the photosensitive polymer utilized in the encapsulating step c) includes an Oligomer and a Photoinitiator; wherein the photosensitive polymer utilized in the encapsulating step c) includes a reactive

Monomer and a Photoinitiator; the photosensitive polymer utilized in the encapsulating step c) includes a Oligomer, a reactive Monomer, and a Photoinitiator; the curing step d) the photosensitive polymer is exposed to the visible light for a period of time between 5 seconds and 10 seconds; the curing step d) the photosensitive polymer is exposed to the ultraviolet light for a period of time between 5 seconds and 10 seconds; nor does the combination suggest the photosensitive polymer is exposed to the electron beam for a period of time between 5 seconds and 10 seconds.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Oota, Wu et al., or Honda et al. that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Oota, Wu et al., nor Honda et al. disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's new claims.

Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

Date: December 8, 2004

By:



Bruce H. Troxell
Reg. No. 26,592

TROXELL LAW OFFICE PLLC
5205 Leesburg Pike, Suite 1404
Falls Church, Virginia 22041
Telephone: 703 575-2711
Telefax: 703 575-2707